



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,868	04/20/2001	Katherine H. Cornog	A01005	3290

26643 7590 07/01/2004

PETER J. GORDON, PATENT COUNSEL
AVID TECHNOLOGY, INC.
ONE PARK WEST
TEWKSBURY, MA 01876

EXAMINER

CHOOBIN, BARRY

ART UNIT	PAPER NUMBER
----------	--------------

2625

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,868

Applicant(s)

CORNOG

Examiner

Barry Choobin

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-13 and 18 is/are rejected.
- 7) ☒ Claim(s) 5-8 and 14-17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4-5. 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on October 11, 2002 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.
2. The information disclosure statement (IDS) submitted on January 16, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Lu (US 6,563,874).

As to claims 1 and 10, Lu discloses a method for generating motion vectors, comprising: determining a set of motion vectors that describes motion between the first and second images (Fig.1A and Fig.1B); and changing the set of motion vectors by selecting one or more portions of the image (column 3, lines 20-28) and modifying the

vectors corresponding to the selected one or more portions (Fig.4 and column 6, lines 57-61, wherein first the motion vector is a global motion vector and after separation and selection of blocks or portion a new motion vector corresponds to modifying or changing the set of motion vector in this claim).

As to claims 2 and 11, Lu further discloses performing image processing using the changed set of motion vectors (column 6, lines 57-62).

As to claims 3 and 12, Lu discloses changing the set of motion vectors comprises: identifying a foreground region and a background region in the first and second images (column 6, line 49); performing tracking on at least one of the foreground region and the background region to determine a motion model for the tracked region (column 1, lines 43-62 wherein a vector is determined corresponding to a model as recites in this claim); and changing the set of motion vectors corresponding to the tracked region according to the motion model for the tracked region (column 1, lines 60-62 wherein concludes that foreground can be characterized as being essentially the same as an earlier frame, **but moved to a new location**. Moved to a new location corresponds to changes in set of motion vector).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4, 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Crinon et al (US 6,249,613).

As to claims 4 and 13 Lu disclose the limitations of claim 1 (see claim 1 above). Lu also discloses identifying a region in the first and second images (blocks).

Lu does not expressly disclose defining a combination map that limits how the vector map is applied to the identified region to transform a pixel from the input image to the output image.

Crinon et al disclose combination map that limits how the vector map is applied to the identified region to transform a pixel from the input image to the output image (column 2, line 65 – column 3, line 11).

Lu and Crinon et al are combinable because they both are concern with image segmentation (background and foreground) and motion estimation.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to use a combination map as taught by Crinon et al with Lu in order to classify macro blocks in either background or foreground.

The suggestion/motivation for doing so would have been to automatically performing on-line segmentation and sprite building of a background image when prior segmentation information is not available (column 2, lines 18-21).

Therefore, it would have been obvious to combine Crinon et al with Lu.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu and in view of Aggarwal et al (US 6,408,293).

As to claims 9 and 18, Lu discloses the method of claim 1 (see claim 1, above).

Lu does not expressly disclose displaying to the user a color image defined by the set of motion vectors; allowing the user to modify the color image defined by the set of motion vectors; and changing the set of motion vectors according to the modified color image.

Aggarwal et al disclose displaying to the user a color image defined by the set of motion vectors; allowing the user to modify the color image defined by the set of motion vectors; and changing the set of motion vectors according to the modified color image (column 4, lines 12-50).

Lu and Aggarwal et al are combinable because they both are concern with image segmentation and motion estimation.

At the time the invention, it would have been obvious to a person of ordinary skill in the art to use a combination map as taught by Aggarwal et al with Lu in order to present a methodology which incorporates interactive intra query object relevance feed back and learning to understand the user perception about the query object (column 2, lines 11-14).

The suggestion/motivation for doing so would have been to present a methodology which incorporates interactive intra query object relevance feed back and learning to understand the user perception about the query object (column 2, lines 11-14).

Therefore, it would have been obvious to combine Aggarwal et al with Lu.

Allowable Subject Matter

9. Claims 5-8, 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6031564 to Ma et al.

US 6658057 to Chen et al.

US 6335985 to Sambonsugi et al.

US 6014181 to Sun.

US 2004/0022419 to Kesaniemi.

US 2003/0103569 to Nakaya et al.

US 5394196 to Robert.

US 6529613 to Astle.

US 2002/0191841 to Harman.

US 2002/0186889 to DE Haan et al.

US 2002/010161 to Baese et al.

US 2001/00119631 to Ohsawa et al.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry Choobin whose telephone number is 703-306-5787. The examiner can normally be reached on M-F 7:30 AM to 18:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 703-308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Barry Choobin
June 24, 2004



BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600